

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
22 March 2001 (22.03.2001)

PCT

(10) International Publication Number  
**WO 01/20336 A3**

(51) International Patent Classification<sup>7</sup>: **G01N 33/68**,  
33/94, C07K 14/705

(21) International Application Number: **PCT/EP00/09136**

(22) International Filing Date:  
18 September 2000 (18.09.2000)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
09/397,549 16 September 1999 (16.09.1999) US

(71) Applicant (for all designated States except US):  
**WARNER-LAMBERT COMPANY** [US/US]; 201  
Tabor Road, Morris Plains, NJ 07950 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **BERTELLI**,  
François [FR/GB]; 25, The Close, Royston, Hertfordshire  
SG8 7JT (GB). **BROWN**, Jason, Peter [GB/GB]; 9  
Church Street, Stapleford, Cambridge, Cambridgeshire  
CB2 5DS (GB). **DISSANAYAKE**, Visaka [GB/LK];  
91 5th Lane, Colombo 3 (LK). **SUMAN-CHAUHAN**,

**Nirmala** [GB/GB]; 2 Lower Hare Park, London Road,  
Six Mile Bottom, Cambridgeshire CB8 0TS (GB). **GEE**,  
**Nicolas**, Steven [GB/GB]; 29 Mary Findlay Drive, Long-  
forgan, Dundee, Scotland DD2 5JE (GB).

(74) Agent: **BECKER, Philippe**; Cabinet Becker et Associés,  
10, rue de Milan, F-75009 Paris (FR).

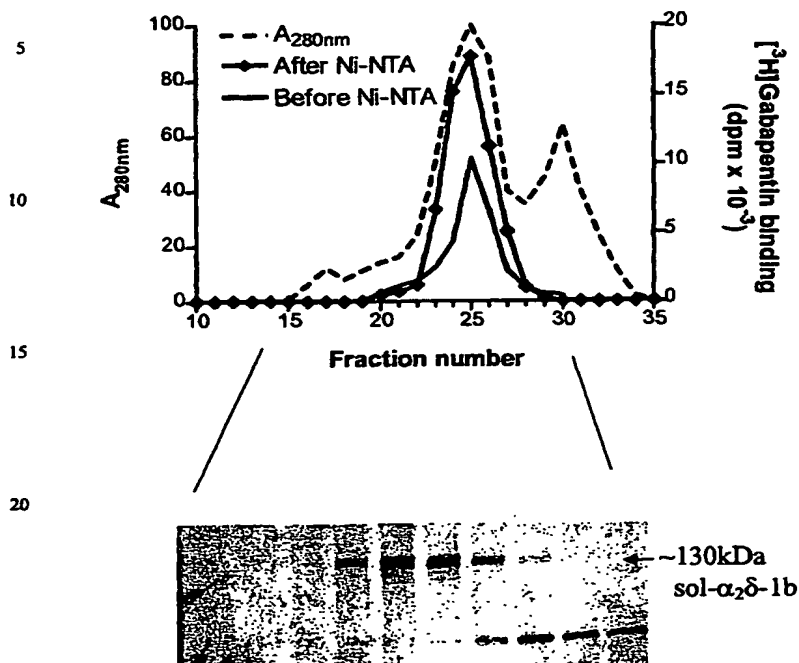
(81) Designated States (national): AE, AG, AL, AM, AT, AU,  
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ,  
DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,  
HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,  
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,  
NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM,  
TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM,  
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian  
patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European  
patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE,  
IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG,  
CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:  
— with international search report

[Continued on next page]

(54) Title: SCREENING FOR  $\alpha_2\delta$ -1 SUBUNIT BINDING LIGANDS



(57) Abstract: A method for the screening of ligands which bind to soluble  $\alpha_2\delta$ -1 subtype polypeptides. The invention also relates to compositions and kits for implementing such methods, as well as to the ligands selected or identified using the same.

WO 01/20336 A3



(88) Date of publication of the international search report:  
18 October 2001

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

## INTERNATIONAL SEARCH REPORT

International Application No  
PCT/EP 00/09136

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G01N33/68 G01N33/94 C07K14/705

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G01N C07K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, BIOSIS

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	<p>HOFMANN F ET AL: "Voltage-dependent calcium channels: From structure to function." REVIEWS OF PHYSIOLOGY BIOCHEMISTRY AND PHARMACOLOGY, vol. 139, 1999, pages 33-87, XP000998424 1999 Springer-Verlag; Springer-Verlag New York, Inc. Heidelberger Platz 3, D-1000 Berlin, Germany; 175 Fifth Avenue, New York, New York 10010, USA ISBN: 3-540-65694-4 page 42, paragraph 3 -page 44, paragraph 1 --- -/--</p>	10-19



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

## \* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*&\* document member of the same patent family

Date of the actual completion of the international search

19 April 2001

Date of mailing of the international search report

11/05/2001

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Hart-Davis, J

# INTERNATIONAL SEARCH REPORT

International Application No.

PCT/EP 00/09136

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	<p>WITCHER DERRICK R ET AL:  "Characterization of the purified N-type Ca-2+ channel and the cation sensitivity of omega-conotoxin GVIA binding."  NEUROPHARMACOLOGY,  vol. 32, no. 11, 1993, pages 1127-1139,  XP002165606  ISSN: 0028-3908  page 1128, column 2, paragraph 5 -page  1129, column 1, paragraph 1</p>	10-19
A	<p>BROWN JASON P ET AL: "Cloning and deletion mutagenesis of the alpha2delta calcium channel subunit from porcine cerebral cortex. Expression of a soluble form of the protein that retains (3H)gabapentin binding activity."  JOURNAL OF BIOLOGICAL CHEMISTRY,  vol. 273, no. 39, pages 25458-25465,  XP002165607  ISSN: 0021-9258  the whole document</p>	1-30
A	<p>WO 99 28342 A (SIBIA NEUROSCIENCES INC ;WILLIAMS MARK (US); HANS MICHAEL (US); HA) 10 June 1999 (1999-06-10)   claims 1,6-8,22</p>	1,2, 10-19, 23-26, 29,30
A	<p>WO 96 03122 A (WARNER LAMBERT CO) 8 February 1996 (1996-02-08)  page 11, line 6 -page 13, line 9</p>	1-6, 20-30
P,A	<p>WO 00 20450 A (WARNER LAMBERT CO ;MOLDOVER BRIAN (US); JOHNS MARGARET ANN (US); O) 13 April 2000 (2000-04-13)  page 34, line 9 -page 35, line 26; claim 17; example 1</p>	1-6, 20-30
A	<p>BROWN JASON P ET AL: "Isolation of the (3H)gabapentin-binding protein/alpha2delta Ca2+ channel subunit from porcine brain: Development of a radioligand binding assay for alpha2delta subunits using (3H)leucine."  ANALYTICAL BIOCHEMISTRY,  vol. 255, no. 2,  15 January 1998 (1998-01-15), pages 236-243, XP002165608  ISSN: 0003-2697  cited in the application  the whole document</p>	1-30

-/--

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 00/09136

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>WANG MINGHAN ET AL: "Structural requirement of the calcium-channel subunit alpha2delta for gabapentin binding." BIOCHEMICAL JOURNAL, vol. 342, no. 2, pages 313-320, XP000998401 ISSN: 0264-6021 the whole document</p>	1-30

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 00/09136

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9928342	A	10-06-1999	AU 1802699 A EP 1042468 A	16-06-1999 11-10-2000
WO 9603122	A	08-02-1996	US 5792796 A AU 703428 B AU 3006995 A AU 3236999 A CZ 9700162 A EP 0804182 A HU 76835 A JP 10503490 T NZ 290050 A PL 318268 A SK 9097 A ZA 9506229 A	11-08-1998 25-03-1999 22-02-1996 05-08-1999 16-07-1997 05-11-1997 28-11-1997 31-03-1998 30-08-1999 26-05-1997 06-05-1998 11-03-1996
WO 0020450	A	13-04-2000	AU 1106500 A	26-04-2000